Tuan-Anh Nguyen

GitHub: github.com/h114mx001
LinkedIn: Nguyen Tuan Anh

Email: 21anh.nt@vinuni.edu.vn
Mobile: +84-869-286-227
Website: https://h114mx001.netlify.app/

EDUCATION

- **VinUniversity** Hanoi, Vietnam
  BSc. in Computer Science; GPA: 3.61 *September 2021 - (Expected) June 2025*

PROFESSIONAL EXPERIENCE

- **Information Security Lab, VinUniversity** On-site
  Undergraduate Research Assistant *Mar 2023 - Nov 2023*
  - Achieved a $1000 research grant from VinUniversity Undergraduate Research grant for a research project on **Towards Secure & Lightweight Implementation of Group Key Agreement on IoT devices**, under supervision of Professor Wong Kok-seng.
  - Conducted experiments on privacy-preserving protocols for including but not limited to Federated Learning & multiparty computation systems, which resulted in 02 on-review research papers.

- **College of Engineering & Computer Science, VinUniversity** On-site
  Undergraduate Research Assistant *Mar 2023 - Nov 2023*
  - Conducted two independent study courses on Modern Cryptography under Professor Wray Buntine's supervision, with foundational topics of Cryptology.
  - Created **"CryptoBook for n00b1es"** - a comprehensive Cryptography notes for beginners how to implement and attack cryptography algorithms.
  - Developed a Twitter Crawler with hashtag/keyword-based tweet crawling & user profile visualization features to analyze Twitter discussions about ChatGPT and other GPT models.
  - Successfully crawled more than **one million tweets and more than ten thousand profiles** within 01 month.

- **Viettel Cyber Security** Hybrid
  Vulnerability Research Intern *Aug 2022 - Mar 2023*
  - Achieved distinction among 300+ candidates to secure a position as **one of the top 25 interns in the batch**.
  - Engaged in an intensive 6-month training program focused on mastering Reverse Engineering and Exploit Development techniques on x86-64 & i386 platforms.
  - Achieved the **second highest** contribution out of 25 interns to **hsvcs** - VCS Academy Team.

- **CyberKid Vietnam** Remote
  Cybersecurity Instructor *Nov 2022 - Feb 2022*
  - Collaborated with a team to create the syllabus, materials, and labs for a Programming and Cryptography course designed to educate children about Cyber Security.
  - Became the speaker in 03 seminars for young students about basic Cryptography & Exploit Development, which provided education on cybersecurity for **216 high school students**.

PROJECT

- **VinUni Hacking Club**
  Co-founder, President *Mar 2022 - Present*
  - Organizers, DevSecOps Engineer & challenge authors of **VinUni CTF** - the annual capture-the-flag competition at VinUniversity. Attracted in total more than **150 students from VinUniversity & 07 other universities' computer security clubs**.
  - Created an extensive training program which covers from foundational knowledge to advanced topics in cybersecurity for 13 VinUni Hacking Club's members.
  - Contributed to open-source **CTFd** platform by improving **CTFd-Docker-Challenge** plugin for managing isolated hacking platform via Docker images via secure TLS connection to Docker daemon, and additional integration Dynamic Value.
  - Contributed write-ups & challenges from VinUni CTF and other CTFs to VinUni Hacking Club GitHub repository.

- **VinUniversity Medical Dictionary - MedDict**
  Backend Developer & DevOps Engineer *Sept 2023 - Present*
  - Adopted & Developing the backend API for VinUniversity Medical Dictionary - MedDict - a project to support VinUniversity's College of Health Sciences students in learning medical terminology.
  - Developed a search engine API & Google Chrome plugin for searching medical terms efficiently with open-source illustration & text-to-speech of the terms, and a admin dashboard for managing the dictionary.
  - Frequently used by more than **200 medical students** in College of Health Sciences, VinUniversity.

- **my_rust_os**
  Developer *July 2023 - October 2023*
  - An educational & hobby Operating System, written in Rust for the course "Course-related Project I" at VinUniversity.
  - Provided a simple file system, terminal-user-interface and some basic utilities, with support of QEMU Emulator.

- **RISC-V Interpreter**
  Developer *Jan 2023 - Mar 2023*
  - Implemented a RISC-V Interpreter with support for 32-bit integer operations, memory operations, and control flow operations.
  - Provided several advance features such as syntax error detection & debugger.

ACHIEVEMENTS

- **Finalists, ASEAN Student Contest on Information Security 2023**
  Issued by Vietnam Information Security Association　　　　　　　　　　　　　　　　　　*2023*
  - Advances to the Final Round of ASEAN Student Contest on Information Security 2023. Ranked in top 25 over more than 100 teams in the competition.

- **Top 0.1% Best CTF Player on CryptoHack**
  Issued by CryptoHack.org　　　　　　　　　　　　　　　　　　　　　　　　　　　*2023*
  - Ranked in the top 0.1% hackers on CryptoHack, demonstrating familiarity with cryptography algorithms and outstanding problem-solving skills.

- **Dean's List and VinUni Merit-based Scholarship**
  Issued by VinUniversity　　　　　　　　　　　　　　　　　　　　　　　　*2020 - 2022*
  - For outstanding academic performance and contribution, three consecutive Dean's List awards were received, along with a merit-based scholarship for undergraduate studies covering 90% of tuition fees.

- **First Prize, "Best Programming Projects" Category, CECS Day**
  Issued by VinUniversity　　　　　　　　　　　　　　　　　　　　　　　　　　　*2022*
  - Achived the First Prize for The Best Student's Technology Project - for the contributions in developing extensions for CTFd platform.

- **6-star Problem Solving, 5-star C++, Java & Python Badges**
  Issued by HackerRank　　　　　　　　　　　　　　　　　　　　　　　　*2018 - 2022*
  - Earned 6-star Problem Solving, 5-star C++, Java, and Python badges on HackerRank, demonstrating exceptional proficiency in programming languages and problem-solving skills.

PUBLICATIONS

- **Towards Practical Secure Comparison with Coordinate Encoding Mechanism**
  *Gia Huy Do Hoang, Thai Hung Nguyen, **Tuan-Anh Nguyen**, Huy Khiem Le, Kok-seng Wong*
  On-review of the USENIX Security Symposium, 2024

- **Towards Efficient Communication and Secure Federated Recommendation System via Low-rank Training**
  *Ngoc-Hieu Nguyen, **Tuan-Anh Nguyen**, Tuan Minh Nguyen, Vu Tien Hoang, Dung D. Le, Kok-seng Wong*
  On-review of the 2024 Web Conference, 2024